Amendments To The Claims

1.   (Currently amended) A printing system comprising

a) a host device for executing programs;

b) an office machine having a print engine for receiving print engine ready data and based thereon for rendering images and a PC card slot for receiving PC cards; wherein the office machine does not have any printer controller circuit a printer controller and;

c) a PC card for removably coupling with the PC card slot of the office machine and for coupling with the host device, the PC card having a printer controller integrated circuit for providing substantially all printer controller functions for the office machine, the printer controller integrated circuit for receiving printer controller ready data from the host device and based thereon for generating print engine ready data; wherein the office machine requires the PC card with printer controller to be coupled thereto to render images; and wherein the printer controller may be replaced or upgraded by a user without intervention of the manufacturer of the office machine; and

d) printing software having an automatic update module that automatically downloads to the printer controller from a source an updated version of printer controller firmware.

2.   (Currently amended) The printing system of claim 1 further comprising:

e) printer controller firmware that when executed by the printer controller causes the printer controller to perform printer controller functions.

~~d) printing software having an automatic update module that when executing on the host device automatically downloads to the host device from a source one of an updated version of printer controller firmware and the printing software.~~

3.   (Original) The printing system of claim 2 wherein the source is one of a web server and a computer readable medium.

4.   (Cancelled) The printing system of claim 2 wherein the automatic update module when executing on the host device automatically downloads to the printer controller an updated version of printer controller firmware.

5.   (Currently amended) An office machine comprising:

a) a laser print engine for rendering images; and

b) a PC card slot coupled to the laser print engine for receiving a removable PC card that includes a printer controller <u>for controlling substantially all printer controller functions of the office machine</u>; wherein the PC card slot is utilized to transfer output from the printer controller to the laser print engine; wherein the office machine requires the PC card with printer controller to be coupled thereto to render images; and wherein a defective printer controller may be replaced by an operational printer controller or an out-dated printer controller may be upgraded with a new printer controller

by removing the PC card with the defective or old printer controller from

the office machine and by inserting a new PC card with the operational or

new printer controller into the office machine; and

c) printing software having an automatic update module that automatically

downloads to the printer controller from a source an updated version of

printer controller firmware.

6.   (Currently amended) The office machine of claim 5 further comprising:

d) a print engine ready data interface for coupling to a PC card and selectively

receiving print engine ready data therefrom.

7.   (Previously presented) The office machine of claim 5 wherein the office machine

is one of a laser printer, and an all-in-one office machine that includes a laser

printer.

8.   (Currently amended) A removable PC card for removably coupling with a

corresponding card slot in a laser printer comprising:

a) a printer controller integrated circuit for ~~providing printer controller~~ controlling

substantially all printer controller functions of the printer; and

b) a connector having a print engine ready data interface for coupling to the laser

office machine and selectively receiving print engine ready data therefrom;

wherein the PC card is adapted for insertion into a corresponding PC card

slot in the laser printer and wherein the printer controller integrated circuit

may provide printer controller functions to the laser printer when coupled thereto; wherein a defective printer controller may be replaced by an operational printer controller or an out-dated printer controller may be upgraded with a new printer controller by removing the PC card with the defective or old printer controller from the laser printer and by inserting a new PC card with the operational or new printer controller into the laser printer; and wherein the printer controller receives automatically updated printer controller firmware.

9. (Original) The removable PC card of claim 8 further comprising:

c) a connector having a printer formatter ready data interface for coupling to a host machine and selectively receiving printer formatter ready data therefrom.

10. (Withdrawn) A method of printing in a system that includes an office machine having a print engine and a slot for receiving a PC card, a PC card for removably coupling to the office machine, the PC card having a printer controller and a memory for storing a printer controller program, a host having a printing software, the method comprising:

a) determining whether the PC card has been operationally coupled to the slot of the office machine;

b) when it is determined that the PC card has been operationally coupled to the office machine, then determining whether the printer controller program is loaded in the memory of the printer formatter; otherwise proceeding to step (a);

c) when it is determined that the printer controller program is loaded in the memory, then determining whether the printer controller program is valid; otherwise, loading the printer controller program into the memory and repeating step (c);

d) when it is determined that the printer controller program is valid, then determining whether the printer controller program is compatible with the print engine, the printing software and printer formatter;

e) when it is determined that the printer controller program is loaded, valid, and compatible with the print engine, the printing software and printer controller, then sending data to be printed to the printer controller.

11.   (Withdrawn) The method of claim 10 further comprising:

d1) when the printer controller program is one of not loaded, invalid, and incompatible, then notifying a user of the incompatibility.

12.   (Withdrawn) The method of claim 10 further comprising:

d1) when the printer controller program is one of not loaded, invalid, and incompatible, then downloading the printer controller program to the memory.

13.   (Withdrawn) The method of claim 12 wherein downloading the printer controller program to the printer controller further comprises:

downloading the printer controller program from the host to the memory.

14.   (Withdrawn) The method of claim 12 wherein downloading the printer controller program to the printer controller further comprises:

downloading the printer controller program from a web site to the memory.

15.   (Withdrawn) The method of claim 10 wherein determining whether the printer controller program is valid further comprises:

performing a cyclic redundancy check on the printer controller program.

16.   (Previously presented) The printing system of claim 1 wherein the PC card includes a form factor that is one of a form factor of the Personal Computer Memory Card International Association (PCMCIA) type I card, a form factor of PCMCIA type II card, and a form factor of PCMCIA type III card.

17.   (Previously presented) The removable PC card of claim 8 wherein the PC card includes a form factor that is one of a form factor of the Personal Computer Memory Card International Association (PCMCIA) type I card, a form factor of PCMCIA type II card, and a form factor of PCMCIA type III card.

18.   (Previously presented) The office machine of claim 5 wherein the PC card slot receives PC cards having a form factor that is one of a form factor of the Personal Computer Memory Card International Association (PCMCIA) type I

card, a form factor of PCMCIA type II card, and a form factor of PCMCIA type III

card.